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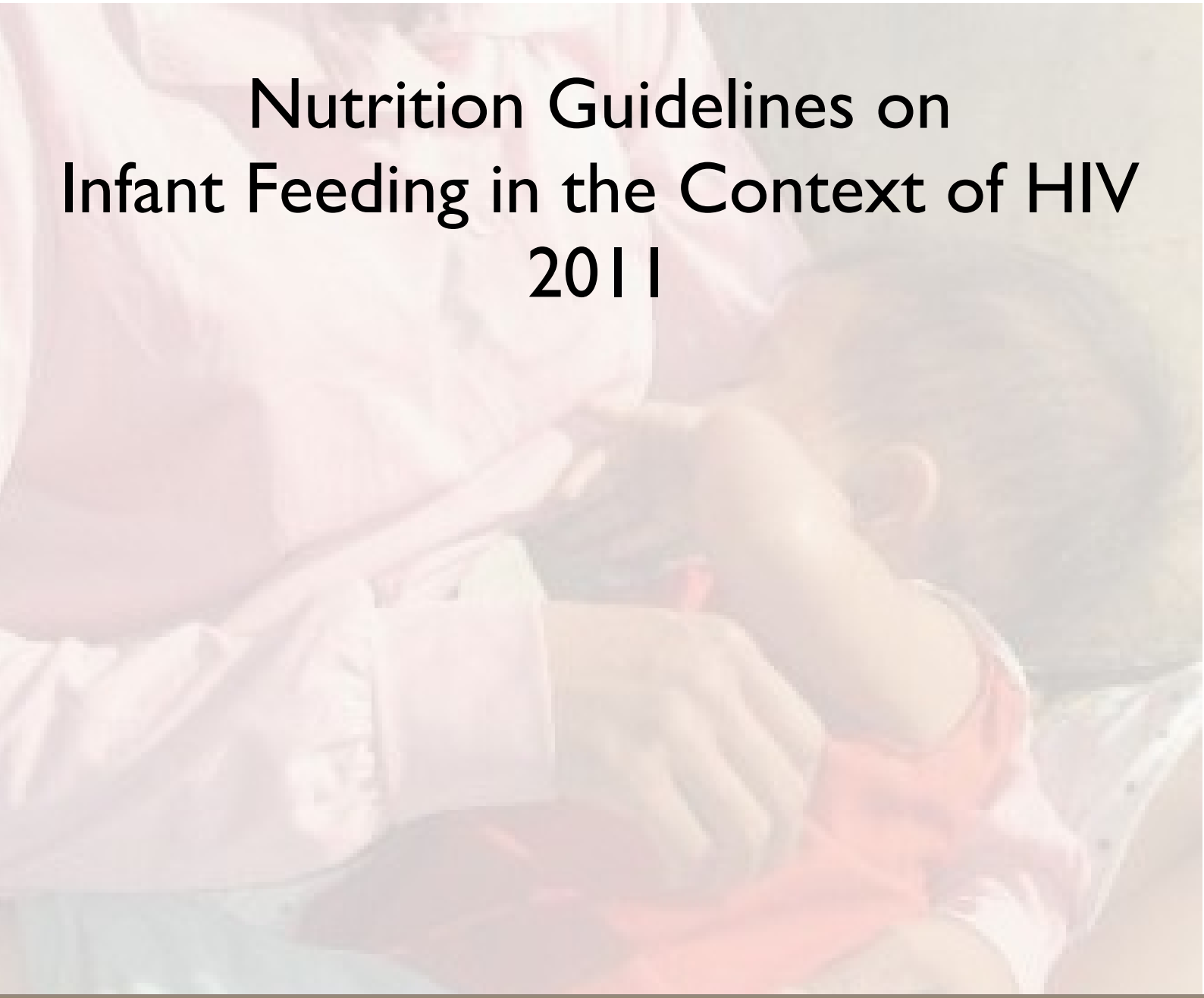
Global Health

Nutrition

Nutrition Guidelines on Infant Feeding in the Context of HIV 2011



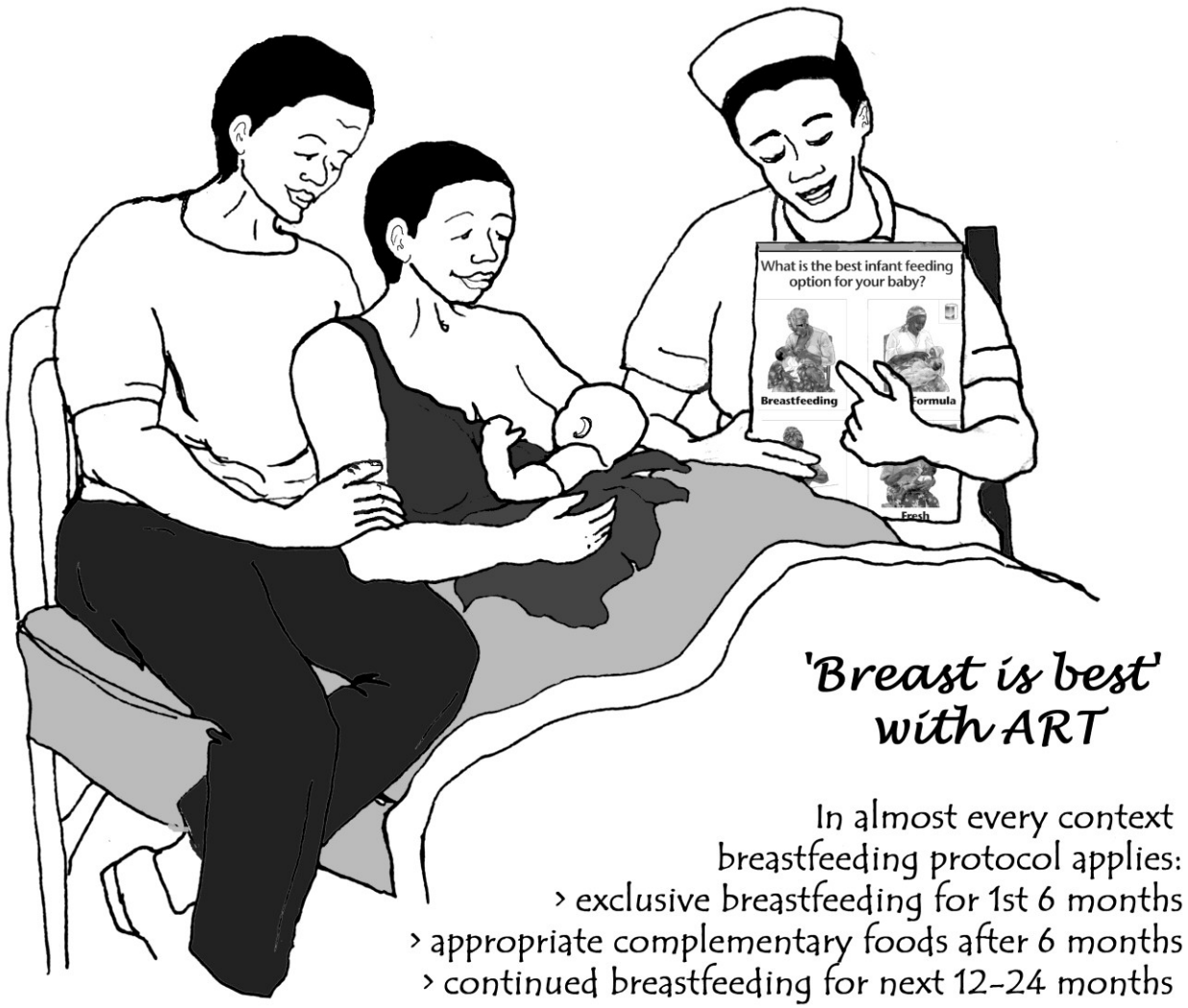
Working in maternal and child health, nutrition, HIV and AIDS, and water, sanitation and hygiene

This brief on infant feeding in the context of HIV is in two parts:

1) **Summary**: Summarises the World Health Organization's (WHO) 2010 guidance on infant feeding in the context of HIV,[1] and

2) Implications for World Vision (WV) **Practitioners**: Highlights the implications of this guidance for WV programmes.

[1] UNICEF. Guidelines on HIV and infant feeding: Principles and recommendations for infant feeding in the context of HIV and a summary of evidence. UNICEF, 2010. Available at: http://www.who.int/child_adolescent_health/documents/9789241599535/en/index.html, downloaded September 13, 2011.



EVIDENCE FOR NEW GUIDANCE

Implementing the new recommendations based on the latest research can reduce mother-to-child transmission risk from 35 per cent to less than five per cent in breastfeeding populations.[2]

Even without antiretroviral drugs (ARV), HIV transmission rates are low during the breastfeeding period. Moreover, recent research shows that exclusive breastfeeding for up to six months was associated with greater than 50 per cent reduced risk of transmission of HIV compared to non-exclusive breastfeeding in three large cohort studies conducted in Cote d'Ivoire, South Africa and Zimbabwe.[3]

Weighed against the low (less than one per cent per month) but ongoing risk of HIV transmission through breast milk,[4] breastfeeding substantially reduces the risk of infant mortality from other infectious diseases and malnutrition on average by four to six-fold in the first six months and close to two-fold in the second six months of life.[5]

[2] Rapid Advice Use of antiretroviral drugs for treating pregnant women and preventing HIV infection in infants Version 2, WHO 2010
[3] HIV and Infant Feeding New evidence and programmatic experience. Report of a Technical Consultation, Geneva, Switzerland, 25–27 October 2006. Held on behalf of the Inter-agency Task Team (IATT) on Prevention of HIV Infections in Pregnant Women, Mothers and their Infants. WHO, 2007.
[4] The BHITS Group. Late Postnatal Transmission of HIV-1 in breast-fed children: An individual patient data meta-analyses. *Journal of Infectious Diseases* 2004, 189:2154–2166.
[5] WHO Collaborative Study Team on the role of breastfeeding on the prevention of infant mortality, effect of breastfeeding on infant and child mortality due to infectious diseases in less developed countries: a pooled analyses. *Lancet*, 2000, 355:451–455.

1. SUMMARY OF THE 2010 WHO GUIDELINES

The WHO's 2010 guidelines on infant feeding in the context of HIV replace the previous guidelines of 2006. The guidelines reflect recent research and consider potential risks and benefits, feasibility and cost of infant feeding. The guidelines are summarised by nine principles and seven recommendations.

WHO 2010 Guidelines are based on the following principles

These principles reflect a set of values that contexualise the provision of care in programmatic settings. They represent public health approaches and preferences.

1. Balancing HIV prevention with protection from other causes of child mortality (referred to in this document as HIV-free survival).
2. Integrating HIV interventions into maternal and child health services.
3. Having national or sub-national authorities decide which infant feeding practice in the context of HIV should be promoted in their country rather than leaving each individual mother with the responsibility to balance the risks and benefits of different options without being informed of the general medical consensus that promotes one option over another.
4. When ARVs are not (immediately) available, breastfeeding may still provide infants born to HIV-infected mothers with a greater chance of HIV-free survival.
5. Informing mothers known to be HIV-infected about infant feeding alternatives.
6. Providing services to specifically support mothers to appropriately feed their infants.
7. Avoiding harm to infant feeding practices in the general population.
8. Advising mothers who are HIV-uninfected or whose HIV status is unknown to exclusively breastfeed their infants for the first six months and then introduce complementary foods while continuing breastfeeding for at least 24 months and beyond.
9. Investing in improvements in infant feeding practices in the context of HIV.

WHO 2010 Recommendations

These recommendations reflect the most current evidence from research while taking into consideration potential risks and benefits, feasibility and cost implications.

1. HIV maternal care: Mothers known to be HIV-infected should be provided with lifelong antiretroviral therapy (ART) or ARV prophylaxis interventions to reduce HIV transmission through breastfeeding according to WHO recommendations.

2. Breastfeeding practices:

   ARVS are available: Mothers known to be HIV-infected (and whose infants are HIV-uninfected or of unknown HIV status) should exclusively breastfeed their infants for the first six months of life, introducing appropriate complementary foods thereafter, and continue breastfeeding for the first 12 months. Breastfeeding should then only stop gradually over a month once a nutritionally adequate and safe diet without breast milk can be provided.

   ARVs are not yet available: Mothers known to be HIV-infected should exclusively breastfeed for the first six months, introducing appropriate complementary foods thereafter and continue breastfeeding until a safe and adequate diet without breast milk is available.

   A mother should not be deterred from breastfeeding if ARVs are not yet available. Breastfeeding without ARVs still presents a greater chance of HIV-free survival than replacement feeding where all conditions are not met (see conditions for safe formula feeding below).

3. Stopping of breastfeeding: Mothers known to be HIV-infected who decide to stop breastfeeding at any time should stop gradually within one month. Mothers or infants who have been receiving ARV prophylaxis should continue prophylaxis for one week after breastfeeding is fully stopped. Stopping breastfeeding abruptly is not advisable.

4. Infant feeding when mothers stop breastfeeding: When mothers known to be HIV-infected decide to stop breastfeeding at any time, infants should be provided with safe and adequate replacement feeds to enable normal growth and development.

5. **Conditions needed to safely formula feed:** Mothers known to be HIV-infected should only give commercial infant formula milk as a replacement feed to their HIV-uninfected infants or infants who are of unknown HIV status when specific conditions are met. WHO 2010 guidance has redefined these conditions into practical terms (see Box A).

BOX A: Conditions for Safe Formula Feeding (formerly AFASS)

safe water and sanitation are assured at the household level and in the community, **and**

the mother, or other caregiver can reliably provide sufficient infant formula milk to support normal growth and development of the infant, **and**

the mother or caregiver can prepare it cleanly and frequently enough so that it is safe and carries a low risk of diarrhoea and malnutrition, **and**

the mother or caregiver can, in the first six months, exclusively give infant formula milk, **and**

the family is supportive of this practice, **and**

the mother or caregiver can access health care that offers comprehensive child health services.

Alternatives to breastfeeding if all safe feeding conditions (Box A) have been met

For infants less than six months of age:

- Commercial infant formula milk as long as home conditions outlined in Recommendation #5 (Box A) are fulfilled;
- Expressed, heat-treated breast milk (see Recommendation #6).
- Home-modified animal milk is not recommended as a replacement food in the first six months of life.

For children over six months of age:

- Commercial infant formula milk as long as home conditions outlined in Recommendation #5 (Box A) are fulfilled;
- Animal milk (boiled for infants under 12 months), as part of a diet providing adequate micronutrient intake;
- Meals, including milk-only feeds, other foods and combination of milk feeds and other foods, should be provided four or five times per day. All children need complementary foods from six months of age.

Note
In the majority of contexts in which World Vision works, the above criteria cannot be met by most families and therefore exclusive breastfeeding for the first six months of life and continued breastfeeding until environmental and social circumstances are safe and supportive of replacement feeding is strongly recommended.

6. **Heat-treated, expressed breast milk:** Mothers known to be HIV-infected may consider expressing and heat-treating breast milk *as an interim feeding strategy*:
   - In special circumstances such as when the infant is born with low birth weight or is otherwise ill in the neonatal period and unable to breastfeed; **or**
   - When the mother is unwell and temporarily unable to breastfeed or has a temporary breast health problem, such as mastitis; **or**
   - To assist mothers to stop breastfeeding; **or**
   - If ARVs are temporarily not available.
7. **When the infant is HIV-infected:** If infants and young children are known to be HIV-infected, mothers are strongly encouraged to exclusively breastfeed for the first six months of life and continue breastfeeding up to two years or beyond.

The 2010 WHO guidelines on infant feeding in the context of HIV urge national or sub-national health authorities to set recommendations for infant feeding in HIV context that, based on new evidence, will give infants the greatest chance of HIV-free survival. Based on the national or sub-national recommendation (one of two options, see below), health service providers will then counsel mothers who are known to be HIV-infected on the recommended option for infant feeding.

The WHO recommends national or sub-national authorities choose between two options for counselling mothers:

Option A – breastfeed and receive ARV interventions ***OR*** **Option B** – avoid all breastfeeding

These options are further discussed in the *Implications for WV Practitioners* section.

2. IMPLICATIONS FOR WV PRACTITIONERS

Background

Breastfeeding is the cornerstone of child survival, even in HIV contexts. Infant mortality is six times greater among non-breastfed infants than those breastfed. At the same time, breastfeeding is recognised as one small factor[6] in the transmission of HIV from an HIV-positive mother to her infant if the mother is not taking ARVs. HIV transmission increases with duration of mixed feeding, and if the mother is re-infected during the breastfeeding period. It presents a dilemma for policy makers, programmers, researchers and the mothers themselves, especially in contexts where ARVs are not available.

National or Sub-national Recommendations

The 2010 WHO guidelines on infant feeding in the context of HIV urge national or sub-national health authorities to establish one recommendation for infant feeding (that is, either breastfeed and receive ARV interventions or avoid all breastfeeding) that, based on new evidence, will give infants the greatest chance of HIV-free survival. Based on the recommendation, health service providers will then promote that one recommended option for infant feeding to mothers who are known to be HIV-infected, rather than presenting mothers with a number of options.

The decision of the national or sub-national authority on which recommendation to choose should be based on **international recommendations** and **consideration** of the:

- socio-economic and cultural contexts of the populations served by maternal, newborn and child health services;
- availability and quality of health services;
- local epidemiology including HIV prevalence among pregnant women;
- main causes of maternal and child undernutrition;
- main causes of infant and child mortality.

Counselling Approaches

Previously, health workers were obligated to provide mothers with all the options for infant feeding, often overloading them with HIV information. WHO now recommends that pregnant women and mothers known to be HIV-infected should be informed of the national or sub-national recommendation for infant feeding in the context of HIV and that alternatives exist which a mother may choose to adopt if she wishes. Health workers may summarise and communicate the basic evidence in support of the recommended option for infant feeding. In addition, information on the infant feeding alternatives to the national or sub-national recommendation can be communicated through general health messaging or group sessions at health facilities, so that individual counselling sessions can focus on improving infant feeding practices rather than the decision of what infant feeding practice to use.

Recommended Infant Feeding Options

The WHO recommends national or sub-national authorities choose between two options for counselling mothers:

Option A – breastfeed and receive ARV interventions
OR
Option B – avoid all breastfeeding

For mothers, considering one recommendation is much simpler than making complex contextual considerations.

[6] Transmission of HIV from the HIV-positive mother to her child may occur during pregnancy, delivery or through breastfeeding.

OPTION A – BREASTFEED AND RECEIVE ARV INTERVENTIONS INTERNATIONAL RECOMMENDATION

In context of HIV, where health authorities are given the option of promoting breastfeeding and receiving ARV interventions or avoiding all breastfeeding, studies have shown that the **OPTION A** is best.

BOX B: OPTION A–BREASTFEED AND RECEIVE ARV INTERVENTIONS

BEST OPTION

First 6 months: exclusive breastfeeding along with ARV

Months 6–12: continued breastfeeding with appropriate complementary feeding

Months 12–24: continue ARV for mother (or infant) and complementary feeding with replacement feeding when safe formula feeding conditions warrant

The risk of HIV transmission through breastfeeding can be significantly lowered by **exclusive** breastfeeding. The type of breastfeeding is closely associated with the risk of HIV transmission. Exclusive breastfeeding for six months when combined with ARV can reduce mother-to-child transmission to less than five per cent from a background of 35 per cent. Introducing partial replacement feeding carries a greater risk of transmission because the other liquids and foods given to the baby alongside the breast milk can damage the already delicate and permeable gut wall of the small infant and allow more virus to be transmitted. Introducing replacement feeding also poses risks of contamination and diarrhoea which diminish the chances of HIV free survival.[7] Breast milk provides protection against other infections and reduces infant mortality. Risk of death among children who are not breastfed is high. In general, infants who are not breastfed are six times more likely to die from diarrhoea or respiratory infections than those who are breastfed (WHO, Lancet 2000).

Contextual Considerations

1. When ARVs <u>are</u> available

<u>Mothers who are known to be HIV-infected</u> should be provided either:

a) Lifelong antiretroviral therapy (ART); or
b) ARV prophylaxis interventions to reduce HIV transmission continued until one week after breastfeeding stops.

[Refer to *Antiretroviral Drugs for Treating Pregnant Women and Preventing HIV Infection in Infants, 2010 Version, WHO*].

<u>Mothers known to be HIV-infected and whose infants are HIV-uninfected or of unknown HIV status</u> should:

- Exclusively breastfeed infants for the first six months of life, introducing appropriate complementary foods at six months and continue to breastfeed for the first 12 months of life.
- Continue breastfeeding until a nutritionally adequate and safe diet without breast milk can be provided for the child. Then breastfeeding should be gradually reduced and stopped over one month. The WHO recommends against abrupt or rapid cessation of breastfeeding because of possible negative effects on the mother and infant, including mastitis and breast pain. Over that month, the nutritionally adequate and safe diet should gradually replace breast milk in the diet and completely replace breast milk by the end of one month.

  Mothers or infants receiving ARV prophylaxis should continue the prophylaxis for one week after breastfeeding has fully stopped. It should be kept in mind that stopping breastfeeding is not always simple and it may be taken up again, for example, if the infant becomes ill. **Stopping breastfeeding abruptly is NOT recommended.**

[7] UNICEF. Guidelines on HIV and Infant Feeding, UNICEF, 2010.

HIV status of the mother is unknown or she is known to be HIV-uninfected: A mother should be supported to exclusively breastfeed for the first six months of life, for her child to achieve optimal growth, development and health. When infants are six months old, they should receive nutritionally adequate and safe complementary foods, while breastfeeding continues for up to two years of age or beyond.

Mothers whose status is unknown should be offered HIV testing. Mothers whose status is uninfected should be counselled on ways to prevent HIV infection and about services that are available (such as family planning) to help them remain uninfected.

2. When ARVs are NOT yet available:

Staff in every location should familiarise themselves with national and sub-national authorities' policies. The following is likely to be the best approach where such policies do not exist or are not yet in line with WHO's 2010 guidance.

Mothers known to be HIV-infected should be counselled to exclusively breastfeed in the first six months of life, introduce appropriate complementary foods thereafter and continue breastfeeding until environmental and social circumstances are safe for and supportive of replacement feeding.

Even without ARV treatment, breastfeeding may still provide infants born to HIV-infected mothers with a greater chance of HIV-free survival. While efforts should be made to improve access to ARVs, national authorities should not be deterred from recommending that HIV-infected mothers breastfeed as the most appropriate infant feeding practice in their context.

ARV interventions to prevent postnatal transmission of HIV make breastfeeding even more advantageous for child development and survival. However, in the absence of ARVs, HIV-infected mothers should still breastfeed when ALL conditions for formula feeding are not met (refer to Box A, page 3). It is important to prevent the misconception that HIV-infected mothers should only breastfeed if they or their infants are taking ARVs.

When replacement feeds are possible

When a mother known to be HIV-infected decides to stop breastfeeding at any time, she needs to be followed up by someone trained in lactation management to handle this in a way that is safe for both her and the infant. Stopping breastfeeding is complex and challenging. It is common, and quite dangerous for an HIV-infected mother, to suffer from mastitis at this time. Infants should be given adequate foods or replacements for breast milk if younger than six months. Appropriate alternatives to breast milk include:

For infants younger than six months:

- Commercial infant formula as long as all the conditions outlined above are met (see *Box A, Conditions for Safe Formula Feeding)*
- Expressed, heat-treated breast milk is generally recommended as a short-term option unless a mother is committed and motivated to do the required tasks to make this a safe alternative (see below *Heat Treatment of Expressed Breast Milk*)

Home-modified animal milk is NOT recommended as a replacement food in the first six months of life.

For children over six months of age:

- Commercial infant formula as long as the safe feeding conditions outlined above are met (refer to *Box A, Conditions for Safe Formula Feeding*)
- Animal milk (boiled for infants under 12 months), as part of diet providing adequate micronutrient intake. Meals, including milk-only feeds, other foods and combination of milk feeds and other foods, should be provided four or five times per day.[8]

[8] Guiding principles for feeding non-breastfed children 6-24 months of age. WHO 2005.

- Heat treatment of expressed breast milk – Mothers known to be HIV-infected may consider expressing and heat-treating breast milk as heat will inactivate the virus thus making the milk safe for infants. It is generally used only as a temporary feeding strategy because it can be difficult to carry out 24 hours a day for long periods of time. Generally it is recommended in the following situations:
  - When the infant is low birth weight or unable to breastfeed during the first month of life because of illness; or
  - When the mother is unwell and unable to breastfeed her child or has temporary breast problems like mastitis; or
  - To assist mothers to gradually stop breastfeeding; or
  - If the mother needs to be away from her child for a period of time; or
  - If ARVs are temporarily not available.

OPTION B – AVOID ALL BREASTFEEDING

Mothers known to be HIV-infected should only give commercial infant formula milk as a replacement feed to their HIV-uninfected infants or infants of unknown HIV status, when the national authority has recommended avoidance of breastfeeding for infant feeding in the context of HIV and all of the conditions for replacement feeding are met (refer to Box A, *Conditions for Safe Formula Feeding*, page 3).

BOX C: OPTION B – AVOID ALL BREASTFEEDING

Mothers to take ART when eligible and replacement feeding for infant if safe feeding conditions warrant (Box A)

Months 6–24: continued replacement feeding with appropriate complementary feeding

Implications for World Vision Programmes

World Vision will support the implementation of the national or sub-national guidelines on infant feeding in the HIV context. Where national guidelines do not exist, are outdated or counter to current WHO guidance, WV will advocate for policy revisions to align with current WHO recommendations. However, it is recognised that the conditions required for safe formula feeding (Box A) are not commonly met within the communities where WV works; therefore supporting HIV-infected women to breastfeed is the option that has the greatest likelihood of HIV-free survival of infants. In such contexts, WV will advocate for, and recommend the following in field programmes:[9]

- Inform yourself of the national and sub-national infant feeding recommendations and policies in your country.
- Advocate for improved access to ARVs, including ART for mothers in advanced stages of disease and extended ARV prophylaxis for those who are not symptomatic or meet the CD4 cell count threshold for ART.
- If the policy in your country does not align with WHO 2010 recommendations, advocate (with partner agencies) for changes in policy to adopt Option A of WHO's 2010 *Recommendations for Infant Feeding in the Context of HIV* to maximise chances of HIV-free survival.
- In cases where Option B has been recommended by the country, advocate (with partner agencies) for national and sub-national support of Option A to maximise chances of HIV-free survival for infants in WV programme areas. One example is South Africa, which has shown leadership in this area and has recently moved from supporting free infant formula (Option B) to supporting breastfeeding (Option A). In some cases, mothers may choose to act in opposition to the recommendation, that is, they may choose breastfeeding even when the authority is promoting Option B. Ensure that these mothers are provided with the support needed, including ARVs.
- Train and update field staff on WHO's 2010 *Recommendations on Infant Feeding in the Context of HIV*, including the *World Vision Policy Governing the Procurement and Use of Milk Products in Field Programmes 2011 (WV Milk Policy 2011)*.
- Ensure women have access to appropriate antenatal, maternity and PMTCT services.

[9] These recommendations apply to development and acute emergency settings.

- Strengthen approaches which specifically support mothers, whether HIV-infected or HIV-uninfected, to feed their infants appropriately, such as timed and targeted counselling, peer counselling, mother-to-mother support groups, and engaging fathers and grandmothers to support appropriate infant feeding.
- Do not purchase infant formula, except under very exceptional circumstances (see *WV Milk Policy 2011*).
- Where **HIV status of the mother is unknown or she is known to be HIV-uninfected,** she should be supported to exclusively breastfed for the first six months of life. At six month of age, infants should receive nutritionally adequate and safe complementary foods while breastfeeding continues for up to two years of age or beyond.
- Where **a mother is known to be HIV-infected and ALL the necessary conditions for formula (replacement) feeding are not present:**
    - promote exclusive breastfeeding to six months of age and continued breastfeeding unless conditions are safe for and supportive of replacement feeding.
    - At six months of age, appropriate complementary foods should be introduced. If a nutritionally adequate diet is available without breast milk, breastfeeding can be gradually reduced, and all breastfeeding stopped within one month; however, if a nutritionally adequate diet is not available, breastfeeding should continue along with the complementary feeding.
    - The most important consideration will be whether the family is able to provide replacement foods suitable for an infant at that age. If the family does not have appropriate foods available to replace breast milk, then the risk of severe malnutrition and death may be greater than the risk of HIV transmission from continued breastfeeding. *An assessment of the nutritional adequacy of infant's diet by trained health/nutrition staff must be completed and a nutritionally adequate diet available prior to beginning weaning.*
- **If ARV interventions are available:**
    - **complementary foods should be introduced at six months of age along with continued breastfeeding until 12 months of age or whenever adequate and safe replacement feeding can be sustainably offered.**
- World Vision should not routinely purchase replacement feeds for use in field programmes (refer to *WV Milk Policy 2011*). Replacement feeds should only be purchased by WV in exceptional circumstances, such as absent or dead mother, very ill mother, relactating mother, infant rejected by mother, infant artificially fed prior an emergency, rape victim not wishing to breastfeed. Care should be taken that no stigma is attached to choosing to use infant formula. When procuring replacement feeding, the guidelines outlined in the *WV Milk Policy 2011* should be followed.